IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 10/574,170	:	PATENT APPLICATION
In re application of: **BRUNO BOZIONEK ET AL.**	:	
Filed: January 10, 2007	:	**METHOD FOR PROVIDING PERFORMANCE CHARACTERISTICS ON DEMAND**
Examiner: Kevin S. Mai	:	
Group Art Unit: 2456	:	
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BRIEF ON APPEAL

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Real Party in Interest

The real party in interest is Siemens Enterprise Communications GmbH and its related United States company Siemens Enterprise Communications Inc.

Related Appeals and Interferences

There are no related appeals or interferences.

Status of Claims

Claims 24-29, 31-34, 44-52 and 54 have been and are currently pending in the application. The status of the claims is that claims 24-29, 31-34, 44-52 and 54 have been rejected. Claims 1-23, 30, 35-43, and 53 have been canceled. Applicants are appealing the rejection of claims 24-29, 31-34, 44-52 and 54.

Status of Amendments

A request for reconsideration was filed on June 17, 2010 in response to the Final Office Action of April 20, 2010 (hereafter "the Office Action"), from which this appeal is taken. This request for reconsideration was entered by the Examiner.

Summary of Claimed Subject Matter

The pending claims are directed to a method for the transmission of software and/or data on demand from a server to a terminal in a packet network and a computer device configured to utilize such a method. (Specification, at page 1, lines 8-9 (¶ 2)).[1] There are no means plus function limitations in the pending claims. Figures 1 and 3 illustrate embodiments of a computer, such as a server, that has various functional units of the claimed invention. Figures 1

[1] Citations to the specification by paragraph numbers identify paragraphs in the Substitute Specification submitted on March 29, 2006. The paragraph numbers are also provided herewith along with specific citations to page and line numbers of the Specification to help make the cited portions of the Specification easier to find. It should be appreciated that citations to a particular portion of the Specification indicate that there is at least support for those limitations at the cited portion(s) of the Specification.

and 4 illustrate block diagrams of network arrangements that may utilize embodiments of the claimed invention.

Claim 24 is directed to a method for substantially real time transmission of a software component after receiving a demand for the software component from a requesting terminal of a network comprised of a server and a plurality of terminals. (Specification, at page 1, lines 8-9 (¶ 2; Figures 1-4)). The requesting terminal is one of the plurality of terminals. (Specification, at page 3, lines 21-23 (¶ 15); page 8, lines 15-17 (¶ 36)). The method includes the step of triggering a bandwidth test. (Specification, at page 3, lines 7-9 (¶ 12); page 10, lines 3-4 (¶ 42)). The bandwidth test includes sending a bandwidth request to each terminal (Specification, at page 16, lines 1-4 (¶ 66)), registering a bandwidth of an associated part connection after each hop (Specification, at page 16, lines 1-12 (¶¶ 66-67)), and receiving assembled data relating to bandwidth available for each terminal (Specification, at page 16, lines 1-12 (¶¶ 66-67); Table 2). Prior to initiating transmission of the software component, it is determined via the bandwidth test if a present bandwidth is sufficient for transmission of the demanded software component to the requesting terminal by identifying at least one lower priority process currently using bandwidth of the existing network that each has a lower priority than the demand and computing an amount of available bandwidth resources that is obtainable from reducing bandwidth resources assigned to the at least one lower priority process. (Specification, at page 4, lines 18-27 (¶ 19)). If the computed amount of available bandwidth resources is equal to or greater than an amount of bandwidth necessary to transmit the software component to the requesting terminal, the one or more lower priority processes are reduced or frozen and the software component is transmitted to the requesting terminal. (Specification, at page 4, lines 18-27 (¶ 19); page 15, lines 6-24 (¶¶ 63-64)). If the computed amount of available bandwidth resources is less than the amount of

bandwidth necessary to transmit the software component to the requesting terminal, the transmission of the software component is inhibited or rejected. (Specification, at page 5, lines 5-12 (¶ 21); page 10, lines 15-28 (¶ 43)).

Claim 25 depends from claim 24 and requires that the amount of available bandwidth resources also be calculated according to a specified upper limit of a transmission time for transmitting the software component to the requesting terminal. Support for the limitations of claim 25 may be found at least at page 4, lines 1-4 (¶ 16) of the Specification.

Claim 26 depends from claim 25 and requires that the amount of available bandwidth resources is available to the requesting terminal and is included in the demand. Support for the limitations of claim 26 may be appreciated at least from page 4, lines 5-7 (¶ 17) of the Specification.

Claim 27 depends from claim 26 and requires the server to have access to the software component and the amount of available bandwidth resources. Support for the limitations of claim 27 may be found at least at page 3, lines 7-12 (¶ 12), page 8, lines 15-17 (¶ 36) and page 9, lines 9-15 (¶ 39) of the Specification.

Claim 28 depends from claim 27 and requires the bandwidth test to provide a positive test result if the amount of available bandwidth resources is suitable for a real time application or if the amount of available bandwidth resources is suitable for a substantially real time application. Support for the limitations of claim 28 may be understood from at least page 9, lines 1-8 (¶ 38) of the Specification.

Claim 29 depends from claim 27 and requires the information regarding the present bandwidth be made available by a network resource manager and be updated on request by the

server or after a period of time. Support for the limitations of claim 29 may be found at least at page 12, lines 8-12 (¶ 48) of the Specification.

Claim 31 depends from claim 29 and requires a message to be sent to the requesting terminal that includes a temporary or permanent rejection of the load request if the amount of available bandwidth resources is less than the amount of bandwidth necessary to transmit the software component. Support for the limitations of claim 31 may be understood from at least page 10, line 22 through page 11, line 5 (¶ 43) of the Specification.

Claim 32 depends from claim 31 and also includes the step of displaying the message to a user of the requesting terminal. Support for the limitations of claim 32 may be found at least at page 6, lines 1-3 (¶ 25) of the Specification.

Claim 33 depends from claim 31 and also includes the step of generating a load request in response to the temporary rejection of the load request. Support for the limitations of claim 33 may be appreciated from at least page 5, lines 5-18 (¶¶ 21-22) of the Specification.

Claim 34 depends from claim 31 and also required that a permanent rejection be generated after a plurality of temporary rejections have been generated for a load request for the software component or after determining that the amount of bandwidth necessary to transmit the software component is greater than a maximum available bandwidth. Support for the limitations of claim 34 may be understood from at least page 5, lines 8-11 and 18-22 (¶¶ 21 and 23) of the Specification.

Claim 44 depends from claim 24 and requires the amount of bandwidth necessary to transmit the software component be at least partially defined by a transmission rate requirement provided in the demand. Support for the limitations of claim 44 may be found at least at page 11, lines 16-22 (¶ 45) of the Specification.

Claim 45 depends from claim 44 and requires the amount of available bandwidth resources to be calculated by a network resource manager that is connected to the server. Support for the limitations of claim 45 may be appreciated from at least page 12, liens 8-12 (¶ 48) of the Specification.

Claim 46 depends from claim 45 and requires that the network resource manager be connected to an available bandwidth memory that has data on bandwidths assigned to processes using network bandwidth resources and priorities for these processes. Support for the limitations of claim 46 may be understood from at least page 12, lines 13-17 (¶ 49) of the Specification.

Claim 47 depends from claim 46 and requires the network resource manager to also be connected to at least one of the terminals and the available bandwidth memory to be periodically updated with new data for the bandwidths assigned to processes using network bandwidth resources and priorities for these processes. Support for the limitations of claim 47 may be found at least at page 12, lines 8-17 (¶¶ 48-49) of the Specification.

Claim 48 is an independent claim directed to a computer configured for connection to a plurality of terminals of a network and configured to transmit a software component to a requesting terminal of the plurality of terminals after receiving a demand for the software component from the requesting terminal if bandwidth necessary for transmitting the software component to the requesting terminal is determined to be available. (Specification, at page 1, lines 8-9 (¶ 2); page 8, lines 15-17 (¶ 36). The computer includes a network resource allocation device that is configured to assign resources of the network to the terminals and reassign resources of the network from one terminal to another terminal. (Specification, at page 12, lines 8-12 (¶ 48); page 15, lines 6-14 (¶ 63)). That computer also includes a performance characteristic providing device that is connected to the network resource allocation device and a

network resource distribution memory connected to the network resource allocation device and the performance characteristic providing device. (Figure 3; Specification, at page 12, liens 8-16 (¶¶ 48-49). The network resource distribution memory has stored data on bandwidths assigned to processes using bandwidth resources of the network and priorities for these processes. (Specification, at page 7, lines 1-7 (¶ 30)). The computer also includes a network resource test device connected to at least one of the network resource allocation device, the performance characteristic providing device, and the network resource distribution memory. (Figure 3; Specification, at page 12, lines 22-26 (¶ 50)). The network resource test device is configured to oversee a bandwidth test. (*Id.*). The bandwidth test comprises sending a bandwidth request to each terminal, registering a bandwidth of an associated part connection after each hop in a communication path between each terminal and the computer, and receiving assembled data relating to bandwidth available for each terminal via any associated part connections in each communication path. (Specification, at page 16, lines 1-4 (¶ 66). The performance characteristic providing device is configured to determine whether an amount of bandwidth exists that is sufficient for transmission of the demanded software component by accessing the data stored on the network resource distribution memory to identify at least one lower priority process using bandwidth of the network that each has a lower priority than the demand in the network and calculate an amount of available bandwidth resources that is obtainable from reducing bandwidth resources of the network assigned to the at least one lower priority process. (Specification, at page 6, lines 4-15(¶¶ 26-27)). The network resource allocation device is configured to reduce or freeze the network resources assigned to at least one lower priority process and transmit the software component to the requesting terminal if the computed amount of available bandwidth resources is equal to or greater than an amount of bandwidth necessary to transmit the software

component to the requesting terminal. (Specification, at page 14, lines 20-23 (¶ 60)). The network resource allocation device is configured to inhibit or reject transmission of the software component if the computed amount of available bandwidth resources is less than the amount of bandwidth necessary to transmit the software component to the requesting terminal. (Specification, at page 14, line 24 through page 15, line 5 (¶¶ 61-62)).

Claim 49 depends from claim 48 and requires that the computer be a server or be comprised of a server. Support for the limitations of claim 49 may be appreciated from at least Figure 3 and page 11, lines 23-27 (¶ 46) of the Specification.

Claim 50 depends from claim 48 and requires that the bandwidth demand data also be stored in the network resource distribution memory. Support for the limitations of claim 50 may be understood from at least page 7, lines 1-12 (¶¶ 30-31) of the Specification.

Claim 51 depends from claim 48 and requires that the performance characteristic providing device be a portion of the network resource allocation device. Support for the limitations of claim 51 may be appreciated from at least page 11, lines 23-27 (¶ 46) and page 17, lines 1-7 (¶ 72) of the Specification.

Claim 52 depends from claim 48 and requires that the network resource allocation device also be configured to periodically update the data stored in the network resource distribution memory. Support for the limitations of claim 52 may found at least at page 15, lines 26-29 (¶ 65) of the Specification.

Claim 54 is an independent claim directed to a method for substantially real time transmission of a software component after receiving a demand for the software component from a requesting terminal of a network comprised of a server and a plurality of terminals. (Specification, at page 1, lines 8-9 (¶ 2)). The requesting terminal is a terminal of the plurality of

terminals. (Specification, at page3, lines 21-23 (¶ 15); page 8, lines 15-17 (¶ 36)). The method includes the steps of triggering a bandwidth test (Specification, at page 3, lines 7-9 (¶ 12); page 10, lines 3-4 (¶ 42), and, prior to initiating transmission of the software component, determining via the bandwidth test if a present bandwidth is sufficient for transmission of the software component to the requesting terminal by identifying at least one lower priority process currently using bandwidth of the existing network that each has a lower priority than the demand and computing an amount of available bandwidth resources that is obtainable from reducing bandwidth resources assigned to the at least one lower priority process. (Specification, at page 4, lines 18-27 (¶ 19); page 5, lines 1-4 (¶ 20)). If the computed amount of available bandwidth resources is equal to or greater than an amount of bandwidth necessary to transmit the software component to the requesting terminal, the at least one lower priority process is reduced such that the at least one lower priority process is still able to utilize some bandwidth, and the software component is transmitted to the requesting terminal. (Specification, at page 4, lines 18-27 (¶ 19); page 5, lines 1-4 (¶ 20); page 14, line 26 through page 15, line 2 (¶ 61); and page 15, lines 6-14 14 (¶ 63)). If the computed amount of available bandwidth resources is less than the amount of bandwidth necessary to transmit the software component to the requesting terminal, the transmission of the software component is inhibited or rejected. (Specification, at page 15, lines 3-5 (¶ 62)).

Grounds of Rejection to be Reviewed on Appeal

1. Rejection of claims 24-29, 31-32, 44-51 and 54 as obvious in view of U.S. Patent Application Publication No. 2004/0158644 to Albuquerque et al. (Office Action, at 5).

2. Rejection of claims 33-34 as obvious in view of the combination of Albuquerque et al. and U.S. Patent Application Publication No. 2003/0097443 to Gillett et al. (Office Action, at 19).

3. Rejection of claim 52 as obvious in view of the combination of Albuquerque et al. and U.S. Patent No. 6,222,856 to Krishnan et al. (Office Action, at 21).

Argument

I. Rejection of Claims 24-29, 31-32, 44-51 as Obvious in View of U.S. Patent Application Publication No. 2004/0158644 to Albuquerque et al.

A. Examiner's Burden of Proving Obviousness

"All words in a claim must be considered in judging the patentability of that claim against the prior art." (MPEP § 2143.03). "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." (*Id.*)

Obviousness prevents the "issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.'" *KSR International Co. v. Teleflex inc.*, 127 S.Ct. 1727, 1740 (U.S. 2007) (quoting 35 U.S.C. § 103). To show obviousness, an Examiner must show that the improvement is only "the predictable use of prior art elements according to their established functions." *KSR International Co. v. Teleflex inc.*, 127 S.Ct. 1727, 1740 (U.S. 2007).

"A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references." (MPEP § 2143.01). Rejections on

obviousness cannot be sustained by mere conclusory statements; instead, **there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.** *KSR*, 82 U.S.P.Q.2d at 1396.

For instance, an invention that permits the omission of necessary features and a retention of their function is an indicia of nonobviousness. *In re Edge,* 359 F.2d 896, 149 U.S.P.Q. 556 (CCPA 1966). A conclusory statement to the contrary is insufficient to rebut such an indicia of nonobviousness. (*See* MPEP § 2143.01). As another example, "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." (MPEP § 2143.01). Further, "the proposed modification cannot render the prior art unsatisfactory for its intended purpose." (MPEP § 2143.01).

The Supreme Court set forth the "framework for applying the statutory language of § 103" in *Graham v. John Deere Co.*, 383 U.S. 1, (1966). *KSR International Co.*, 127 S.Ct. 1727, 1734, 82 U.S.P.Q.2d 1385 (U.S. 2007). To make an obviousness determination, underlying factual determinations must first be made. *Graham*, 383 U.S. at 17. The scope and content of the prior art must be determined, the differences between the prior art and the claims at issue must be ascertained, and the level of ordinary skill in the pertinent art must be resolved. *Id.* Moreover, obviousness must not be distorted by using hindsight bias or *ex post* reasoning. *KSR International Co.*, 127 S.Ct. at 1742 (U.S. 2007) (citing *Graham*, 383 U.S. at 36).

Secondary considerations may also be provided to show that an asserted combination would not render claimed subject matter predictable or obvious. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). These secondary considerations include failure of others, unexpected results and the prior art teaching away from the invention. *Id.* at 17-18; *In re Beattie*, 974 F.2d

1309, 1313 (Fed. Cir. 1992) (declarations from those skilled in the art praising the claimed invention and opining that the art teaches away from the invention should be considered); *In re Sullivan*, 498 F.3d 1345, 1352 (Fed. Cir. 2007).

B. Claims 24-29, 31-34, And 44-47 Are Allowable

Claim 24 defines a method that includes triggering a bandwidth test. The bandwidth test comprises sending a bandwidth request to each terminal, registering a bandwidth of an associated part connection after each hop and receiving assembled data relating to bandwidth available for each terminal. Claims 25-29, 31-34 and 44-47 depend directly or indirectly from claim 24 and therefore also contain these limitations.

The cited art does not teach or suggest the bandwidth test recited in claim 24. For example, there is no bandwidth testing done in the system disclosed by Albuquerque et al. The Examiner states that Albuquerque et al. teaches a bandwidth test at paragraphs 27 and 28 (Office Action, at 5). To the contrary, Albuquerque et al. only teaches a computation of available bandwidth by a bandwidth manager overseeing a particular private network. The bandwidth manager taught by Albuquerque et al. would fail whenever other networks are traversed, such as the internet, because without a test there would be no information about available bandwidth from these other networks. (*See e.g.* Albuquerque et al., Figures 2 and 4, ¶¶ 21, 24-26).

1. The Cited Art Does Not Teach Or Suggest Bandwidth Tests

The cited prior art does not teach or suggest any bandwidth test that involves sending a bandwidth request to each terminal, registering a bandwidth of an associated part connection after each hop and receiving assembled data relating to bandwidth available for each terminal as required by claims 24-29, 31-34 and 44-47. The Examiner states that the cited prior art discloses a bandwidth manager that determines the flow on a link between terminals and an access point that calculates if there is enough bandwidth available in a network at paragraphs 28, 29 and 66 of

Albuquerque et al. (Office Action, at 6). However, no portion of the Albuquerque et al. or any other cited art teaches or suggests sending a bandwidth request to each terminal, registering a bandwidth of an associated part connection after each hop, nor receiving assembled data relating to bandwidth available for each terminal.

Claim 24 explicitly requires "triggering a bandwidth test, the bandwidth test comprising sending a bandwidth request to each terminal, registering a bandwidth of an associated part connection after each hop and receiving assembled data relating to bandwidth available for each terminal." At page 2 of the Office Action, the examiner cites paragraph 66 of Albuquerque et al. as disclosing this element of claim 24. The word "test" does not appear in paragraph 66. Instead, paragraph 66 says "changes in link speed are reported to the BM." The Examiner relies on this teaching saying "Accordingly, since it is able to identify the link speed it is seen to do perform bandwidth tests." (Office Action, at 3). In reaching this conclusion, the Examiner is improperly using Applicant's disclosure to read into Albuquerque et al. that which Albuquerque et al. do not teach or suggest. In saying "changes in link speed are reported" Albuquerque et al. suggests continuous monitoring, not testing. Furthermore, there is nothing in the Albuquerque et al. reference that tells a reader what is done to cause the reporting of the link speed. It is improper for the Examiner to conclude that Albuquerque et al. teach or suggest a bandwidth test as required by claim 24 from a disclosure that merely recites monitoring of link speeds experienced by terminals.

2. The Cited Art Does Not Teach Or Suggest Bandwidth Requests Sent To Terminals

The system disclosed by Albuquerque et al. does not disclose any bandwidth request being sent to any terminals. Instead, bandwidth requests are transmitted by terminals to an access point. The access point then utilizes a bandwidth manager to allocate bandwidth for that

terminal. To the extent the Examiner is suggesting that the system disclosed by Albuquerque et al. be modified to read on the requirement that bandwidth requests be sent to terminals, the proposed modification of the Albuquerque et al. reference is improper since it would change the principle of operation of the prior art invention being modified. MPEP § 2143.01.

Albuquerque et al. explicitly requires access points to request bandwidth, not terminals. In fact, the removal of such an element that the prior art identifies as necessary is an indicia of the non-obviousness of the pending claims. *See In re Edge,* 359 F.2d 896, 149 U.S.P.Q. 556 (CCPA 1966).

3. The Cited Art Does Not Teach Or Suggest Any Bandwidths Of Associated Part Connections Being Registered After Each Hop

Albuquerque et al. also do not disclose or suggest any bandwidths of associated part connections being registered after each hop The only registrations of bandwidth disclosed by Albuquerque et al. is the maintenance of a registration table via flow registration units FRs that operate from a plurality of terminals. (Albuquerque et al., ¶¶ 33, 37, Table 2). The bandwidth manager BM may also manage such a reservation table. *Id.* at ¶ 42. None of these bandwidth registrations are registrations of bandwidth of associated part connections being registered. To the contrary, this is only a reservation of bandwidth required by flows experienced by a particular terminal from a utilization of a full connection, such as a link. *Id.* at ¶ 42. There is no bandwidths of part connections being registered after each hop in a particular connection path taught or suggested by the cited art.

4. The Cited Art Does Not Teach Or Suggest Any Assembly Of Data Relating To Bandwidths Available For Each Terminal

Moreover, Albuquerque et al. do not disclose or suggest any receiving of assembled data relating to bandwidth available for each terminal. As admitted in the Office Action,

Albuquerque et al. only disclose an access point that "calculates if there is enough bandwidth available in the network." (Office Action, at 6). There is no receiving of any assembled data relating to bandwidth available for each terminal as part of a bandwidth test disclosed or otherwise suggested in the cited prior art.

C. Claims 48-52 Are Allowable

Claim 48 requires a computer to include a network resource test device connected to at least one of the network resource allocation device, the performance characteristic providing device, and the network resource distribution memory. The network resource test device is configured to oversee a bandwidth test, the bandwidth test comprising sending a bandwidth request to each terminal, registering a bandwidth of an associated part connection after each hop in a communication path between each terminal and the computer, and receiving assembled data relating to bandwidth available for each terminal via the associated part connections in each communication path.

The cited art does not teach or suggest a network resource test device as required by claims 48-52. As discussed above with reference to claim 24, none of the cited art teaches or suggests any running of any bandwidth test. Nor does the cited art teach or suggest a network resource test device configured to oversee such a test or a bandwidth test that includes registering a bandwidth of an associated part connection after each hop in a communication path between each terminal and the computer, and receiving assembled data relating to bandwidth available for each terminal via the associated part connections in each communication path. It is respectfully requested that the rejection of claims 48-52 be reversed.

D. Claim 54 Is Allowable

Claim 54 defines a method for substantially real time transmission of a software component that includes the step of if the computed amount of available bandwidth resources is

equal to or greater than an amount of bandwidth necessary to transmit the software component to the requesting terminal, reducing the at least one lower priority process such that the at least one lower priority process is still able to utilize some bandwidth and transmitting the software component to the requesting terminal.

None of the cited art teaches a reduction of a lower priority process such that that one or more lower priority processes are still operational. Indeed, the cited art teaches away from such a limitation. For example, Albuquerque et al. teach that any lower priority process be eliminated or rejected in the event a higher priority process requires all the bandwidth being used by that or reserved for that process to be released. (Albuquerque et al., ¶ 46, Figure 5).

At pages 3-4 of the Office Action, the Examiner contends that paragraph 44 of the Albuquerque et al. reference teaches a reduction of the at least one lower priority process such that the at least one lower priority process is still able to utilize some bandwidth. To the contrary, this paragraph states that "bandwidths reserved may be temporarily halted or rejected and lose their reserved bandwidths." This paragraph does not teach or suggest a reduction of bandwidth for a connection that permits a terminal or process to still be able to utilize some bandwidth that was previously assigned to it as required by claim 54. This paragraph expressly teaches that all the bandwidth that was previously assigned to a lower priority process be removed from that process and reallocated.

The Examiner also argues that paragraph 44 of the Albuquerque et al. reference teaches a "best effort mode" and that this best effort mode is only a lowering of reserved bandwidth. (Office Action, at 3). To the contrary, paragraph 44 of the Albuquerque et al. reference teaches that in "best effort mode" that "bandwidth is not reserved for the flow." (Albuquerque et al., ¶

44). That bandwidth was completely removed. That flow is not permitted to use any portion of the bandwidth that was previously assigned to it as required by claim 54.

The cited art alone or in any combination fails to teach or suggest all the limitations of claim 54. It is respectfully requested that the rejection of claim 54 be reversed.

II. Rejection of Claims 33-34 as Obvious in View of The Combination of Albuquerque et al. And U.S. Patent Application Publication No. 2003/0097443 to Gillett et al.

Claims 33-34 depend directly from claim 31 and indirectly from claims 29, 27, 26, 25 and 24. These claims are at least allowable because the claims from which they depend are allowable as discussed above. Further, the cited art does not teach or suggest any of the requirements of claims 33 or 34.

A. Claim 33 Is Independently Allowable

Claim 33 includes the requirement that the claimed method include generating a load request in response to the temporary rejection of the load request. The Examiner cites paragraph 59 of Gillett et al. as disclosing such a limitation and admits that Albuquerque does not disclose such a limitation. (Office Action, at 19). In the Office Action, the Examiner states that that Gillett et al. reference "discloses if the edge server lacks sufficient capability to service the request at the required level of performance, the manager may reject or redirect the request. **Redirecting the request is seen to be generating a load request in response to the temporary rejection.**" (Office Action, at 19 (emphasis added)).

To the contrary, Gillett et al. teaches that a manger may redirect a request instead of rejecting it. There is no rejecting of any request taught by Gillett et al. that generates any load request. To the contrary, Gillett et al. teach that a request may either be rejected or may be redirected for another device to respond to a redirection of a request, which is essentially a

transfer of a request to another device, is not a temporary rejection nor any generation of a load request in response to a temporary rejection.

Claim 33 also includes the limitations of claim 31, which requires that the temporary rejection be in a message sent to requesting terminal. The temporary rejection of claim 33 is a temporary rejection issued to a requester in a message sent to the requester. No such rejection is taught by Gillett et al. in paragraph 59. When a request is transferred by a server to another server as taught in paragraph 59 of Gillett et al., no such message is sent to the requesting terminal issuing any temporary rejection. Therefore, Gillett et al. further fails to teach or suggest any sending of a temporary rejection to a requesting terminal.

The cited art fails to teach the limitations of claim 33. Claim 33 is allowable over the cited art.

B. Claim 34 Is Independently Allowable

Claim 34 includes the limitation that a permanent rejection be generated after a plurality of temporary rejections have been generated for a load request or after determining that the amount of a bandwidth necessary to transmit the software component is greater than a maximum available bandwidth. As with claim 33, the Examiner admits that Albuquerque et al. do not teach or suggest this limitation. (Office Action, at 20). Instead, the Examiner relies on paragraph 59 of Gillett et al. to reject claim 34. (Office Action, at 20).

The Examiner claims that a transfer of a request to different servers is the issuance of a number of different temporary rejections and that a request that is ultimately rejected by a server is a permanent rejection. Essentially, the Examiner has used the same rationale used to reject claim 33. (Office Action, at 20). As noted above with respect to claim 33, Gillett et al. do not teach any temporary rejections nor such rejections being sent to a requester in a message. To the

contrary, no such rejection is ever offered or provided to a requester when a server disclosed by Gillett et al. transfers a request to a different server. This is not a temporary rejection as required by claim 34, let alone a plurality of temporary rejections.

Nor does Gillett et al. teach or suggest the issuance of any permanent rejection that is issued after a plurality of temporary rejections have been issued. As discussed above, Gillett et al. do not teach or suggest a plurality of temporary rejections being issued.

The cited combination of art fails to teach or suggest all the limitations of claim 34. Claim 34 is therefore allowable. It is respectfully requested that the rejection of claim 34 be reversed.

III. Rejection of Claim 52 as Obvious in View of The Combination of Albuquerque et al. and U.S. Patent No. 6,222,856 to Krishnan et al.

Claim 52 depends directly from claim 48. As noted above, claim 48 is allowable over the cited art. Therefore, claim 52 is at least allowable because claim 48 is allowable. As discussed above, the cited prior art does not teach or suggest any running of any bandwidth test. Nor does the cited art teach or suggest a network resource test device configured to oversee such a test or a bandwidth test that includes registering a bandwidth of an associated part connection after each hop in a communication path between each terminal and the computer, and receiving assembled data relating to bandwidth available for each terminal via the associated part connections in each communication path. It is respectfully requested that the rejection of claim 52 be reversed.

CONCLUSION

For at least the above reasons, reversal of the rejection of claims 24-29, 31-34, 44-52 and 54 and allowance of these claims are respectfully requested.

Respectfully submitted,

Dated: August 26, 2010

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Claims Appendix

The claims on appeal:

24. A method for substantially real time transmission of a software component after receiving a demand for the software component from a requesting terminal of a network comprised of a server and a plurality of terminals, the requesting terminal being a terminal of the plurality of terminals, the method comprising:

triggering a bandwidth test, the bandwidth test comprising sending a bandwidth request to each terminal, registering a bandwidth of an associated part connection after each hop and receiving assembled data relating to bandwidth available for each terminal;

prior to initiating transmission of the software component, determining via the bandwidth test if a present bandwidth is sufficient for transmission of the demanded software component to the requesting terminal by identifying at least one lower priority process currently using bandwidth of the existing network that each has a lower priority than the demand and computing an amount of available bandwidth resources that is obtainable from reducing bandwidth resources assigned to the at least one lower priority process,

if the computed amount of available bandwidth resources is equal to or greater than an amount of bandwidth necessary to transmit the software component to the requesting terminal, reducing or freezing the at least one lower priority processes and transmitting the software component to the requesting terminal; and

if the computed amount of available bandwidth resources is less than the amount of bandwidth necessary to transmit the software component to the requesting terminal, inhibiting or rejecting transmission of the software component.

25. The method according to claim 24 wherein the amount of available bandwidth resources is also calculated according to a specified upper limit of a transmission time for transmitting the software component to the requesting terminal.

26. The method according to claim 25, wherein the amount of available bandwidth resources is available to the requesting terminal and is included in the demand.

27. The method according to claim 26 wherein the server has access to the software component and the amount of available bandwidth resources.

28. The method according to claim 27 wherein the bandwidth test provides a positive test result if the amount of available bandwidth resources is suitable for a real time application, or wherein the bandwidth test provides a positive test result if the amount of available bandwidth resources is suitable for a substantially real time application.

29. The method according to claim 27 wherein information regarding the present bandwidth is made available by a network resource manager and is updated on request by the server or after a period of time.

31. The method according to claim 29 wherein if the amount of available bandwidth resources is less than the amount of bandwidth necessary to transmit the software component, a message is sent to the requesting terminal, the message comprising a temporary rejection or a permanent rejection of the load request.

32. The method according to claim 31 further comprising displaying the message to a user of the requesting terminal.

33. The method according to claim 31 further comprising generating a load request in response to the temporary rejection of the load request.

34. The method according to claim 31 wherein the permanent rejection is generated after a plurality of temporary rejections have been generated for a load request for the software component or after determining that the amount of bandwidth necessary to transmit the software component is greater than a maximum available bandwidth.

44. The method of claim 24 wherein the amount of bandwidth necessary to transmit the software component is at least partially defined by a transmission rate requirement provided in the demand.

45. The method of claim 44 wherein the amount of available bandwidth resources is calculated by a network resource manager that is connected to the server.

46. The method of claim 45 wherein the network resource manager is connected to an available bandwidth memory that has data on bandwidths assigned to processes using network bandwidth resources and priorities for these processes.

47. The method of claim 46 wherein the network resource manager is also connected to at least one of the terminals and wherein the available bandwidth memory is periodically updated with new data for the bandwidths assigned to processes using network bandwidth resources and priorities for these processes.

48. A computer configured for connection to a plurality of terminals of a network and configured to transmit a software component to a requesting terminal of the plurality of terminals after receiving a demand for the software component from the requesting terminal if bandwidth

necessary for transmitting the software component to the requesting terminal is determined to be available, the computer comprising:

a network resource allocation device, the network resource allocation device configured to assign resources of the network to the terminals and reassign resources of the network from one terminal to another terminal;

a performance characteristic providing device connected to the network resource allocation device;

a network resource distribution memory connected to the network resource allocation device and the performance characteristic providing device, the network resource distribution memory having stored data on bandwidths assigned to processes using bandwidth resources of the network and priorities for these processes;

a network resource test device connected to at least one of the network resource allocation device, the performance characteristic providing device, and the network resource distribution memory, the network resource test device configured to oversee a bandwidth test, the bandwidth test comprising sending a bandwidth request to each terminal, registering a bandwidth of an associated part connection after each hop in a communication path between each terminal and the computer, and receiving assembled data relating to bandwidth available for each terminal via any associated part connections in each communication path;

the performance characteristic providing device configured to determine whether an amount of bandwidth exists that is sufficient for transmission of the demanded software component by accessing the data stored on the network resource distribution memory to identify at least one lower priority process using bandwidth of the network that each has a lower priority than the demand in the network and calculate an amount of available bandwidth resources that is

obtainable from reducing bandwidth resources of the network assigned to the at least one lower priority process; and

the network resource allocation device configured to reduce or freeze the network resources assigned to the at least one lower priority process and transmit the software component to the requesting terminal if the computed amount of available bandwidth resources is equal to or greater than an amount of bandwidth necessary to transmit the software component to the requesting terminal; and

the network resource allocation device configured to inhibit or reject transmission of the software component if the computed amount of available bandwidth resources is less than the amount of bandwidth necessary to transmit the software component to the requesting terminal.

49 The computer of claim 48 wherein the computer is a server or is comprised of a server.

50. The computer of claim 48 wherein bandwidth demand data is also stored in the network resource distribution memory.

51. The computer of claim 48 wherein the performance characteristic providing device is a portion of the network resource allocation device.

52. The computer of claim 48 wherein the network resource allocation device is also configured to periodically update the data stored in the network resource distribution memory.

54. A method for substantially real time transmission of a software component after receiving a demand for the software component from a requesting terminal of a network

comprised of a server and a plurality of terminals, the requesting terminal being a terminal of the plurality of terminals, the method comprising:

triggering a bandwidth test;

prior to initiating transmission of the software component, determining via the bandwidth test if a present bandwidth is sufficient for transmission of the software component to the requesting terminal by identifying at least one lower priority process currently using bandwidth of the existing network that each has a lower priority than the demand and computing an amount of available bandwidth resources that is obtainable from reducing bandwidth resources assigned to the at least one lower priority process,

if the computed amount of available bandwidth resources is equal to or greater than an amount of bandwidth necessary to transmit the software component to the requesting terminal, reducing the at least one lower priority process such that the at least one lower priority process is still able to utilize some bandwidth, and transmitting the software component to the requesting terminal; and

if the computed amount of available bandwidth resources is less than the amount of bandwidth necessary to transmit the software component to the requesting terminal, inhibiting or rejecting transmission of the software component.

Evidence Appendix

None.

Related Proceedings Appendix

None.